

# Standards of Public Land Health

## Evaluation of 65014-ABBOTT WELL Allotment

### [ 11/09/2010 ]

The Roswell Field Office conducted Rangeland Health Assessments at two (2) study sites within Abbott Well, allotment #65014. These assessments evaluated Soil/Site Stability, Hydrologic Function and Biotic Integrity indicators within each study site location and surrounding vicinity. Existing monitoring data and ecological site descriptions were incorporated into and in support of these field assessments. A summary of each assessment is attached and shown in the following table

Study Area or Assessment Area	UPLAND			BIOTIC			RIPARIAN		
	Meets	Monitor an Indicator	Does Not Meet	Meets	Monitor an Indicator	Does Not Meet	Meets	Monitor an Indicator	Does Not Meet
65014-SAND EAST-D002	X			X			N/A		
65014-SAND WEST-D001	X			X			N/A		

Twenty-two (22) indicators for Rangeland Health were evaluated for public land on allotment #65014, Abbott Well. Ten (10) of these assessed soil site stability, 11 hydrologic function and 13 assessed biotic integrity. These qualitative assessments in conjunction with previous data collected on two locations within this allotment were utilized to make rangeland health determinations.

East and West Pastures both are CP-2 Deep Sand ecological sites on (RPD) Roswell-Jalmar fine sand, hilly occurring on high terraces in eastern parts of area surveyed. Sizes are 803 acres and 1,084 acres respectively. Slope is 0 to 25 percent with elevation between 3,900ft and 4,100 ft. Roswell and Jalmar soil is on hummocky sand dunes and in depressional/interdunal areas respectively. Roswell and Jalmar formed in eolian and eolian/alluvial deposits respectively. Both are deep and excessively drained with an effective rooting depth of 60 in/. Both pastures are currently utilized by livestock at conservative or light levels. East Pasture currently rates most indicators "None to Slight" and "Slight to Moderate" with normal range of variability from established parameters. Virtually no shinnery oak (*Quercus havardii*) was observed due to some past chemical treatments from allotment entrance to these pastures themselves. Only those dunal areas southward is where shinnery oak was observed. Little bluestem (*Schizachyrium scoparium*), sand sage (*Artemisia filifolia*), yucca (*Yucca* spp.), blue grama (*Bouteloua gracilis*), dropseed (*Sporobolus* spp.) and threeawn (*Aristida* spp.) were some of those plant species encountered.

West Pasture also rated a majority of indicators as deviating only at normal range of variability from established parameters. Annual production also was somewhat down from long-term

average with an estimate of 60% of the expected 2000 lbs/ac. Invasive plants rated as “None to Slight” as yucca and snakeweed (*Gutierrezia sarothrae*) were observed scattered throughout. Wildlife and special species status habitat indicated almost no shinnery and reduced sand and little bluestem for LPC nesting. Threeawn was however dominant with shrubs like sand sage, prickly pear (*Opuntia engelmannii*), locoweed (*Astragalus* spp.) and forbs buckwheat (*Eriogonum* spp.) and sunflower (*Helianthus* spp.) observed as well.

#### Special Status Species:

Lek surveys for the Lesser Prairie Chicken (LPC) found active lek sites within the surrounding area but none on this allotment. This low level of preferred grasses indicates the LPCs are unlikely to nest successfully in this area.

In the professional opinion of Assessment Team, public land within McDowell allotment #65014 meets the Upland and Biotic standards but with some concerns with LPC habitats. There are no Riparian areas located on public land within this allotment, therefore this standard was not addressed.

See site notes and recommendations for further information regarding evaluations on this allotment.

**Recommendations:** The biotic conditions (as a whole) within the allotment are at or below the minimum requirements needed for the Lesser Prairie Chicken (LPC) habitat. Recent recommendations were implemented for livestock management on this allotment which included:

Implement a two (2) pasture rest-rotation grazing system. One of the two pastures will be rested for a portion of the growing season each year; each would be scheduled for grazing from May-July and the other grazed August-October. The results of the alternating growing season rest is apparent in the resurgence of desirable species such as bluestems and dropseed species.

RFOs Upland and Biotic Standard Assessment Summary Worksheet						
SITE 65014-SAND EAST-D002						
Legal Land Desc	SWNE 19 0060S 0310E Meridian 23	Acreage		803		
Ecosite	070BY063NM DEEP SAND CP-2	Photo Taken		Y		
Watershed	13060003210 RAILROAD MOUNTAIN					
Observers	TRAUTNER & BAGGAO		Observation Date		11/09/2010	
County Soil Survey	NM644 CHAVES NORTH	Soil Var/Taxad				
Soil Map Unit	RPD	Soil Taxon Name		ROSWELL		
Texture Class	NM644 FS	Soil Phase		ROSWELL- JALMAR		
Texture Modifier	NM644 FINE SANDS,HILLY					
Observed Avg Annual Precipitation		Observed Avg Growing Season Precipitation				
NOAA Annual Precipitation		NOAA Growing Season Precipitation				
NOAA Avg Annual Precipitation		NOAA Avg Growing Season Precipitation				
Disturbances and Animal Use:	Light use by livestock					
<b>Part 2. Attributes and Indicators</b>						
		Departure from Ecological Site Description/Ecological Reference Areas				
Attribute	Indicators	Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S H	Rills					X
Comments:						
S H	Water Flow Patterns					X
Comments:						
S H	Pedestals and/or Terracettes					X
Comments:	Some pedastalling around three awn plants - no more than expected.					
S H	Bare Ground					X

Comments:	Current estimate is 25%, ecological site description =35%.					
S H	Gullies					X
Comments:	no gullies present					
S	Wind-scoured, Blowouts, and/or Deposition Areas				X	
Comments:	Independent and few					
H	Litter Movement				X	
Comments:	present in blowout areas					
S H B	Soil Surface Resistance to Erosion				X	
Comments:	Sandy range site, reduction in innerspaces					
S H B	Soil Surface Loss or Degradation					X
Comments:						
H	Plant Community Composition and Distribution Relative to Infiltration and Runoff					X
Comments:						
S H B	Compaction Layer					X
Comments:						
B	Functional/Structural Groups				X	
Comments:	Only minor deviations.- Grass dominated by aristida, the site is dominated by grass and some shrubs.					
B	Plant Mortality/Decadence					X
Comments:						
H B	Litter Amount			X		
Comments:	Ecological site description = 30%, estimated to be 15% here					
B	Annual Production				X	
Comments:	Current estimate is within 60% of expected amount of 2000 lbs/acres					
B	Invasive Plants					X
Comments:						
B	Reproductive Capability of Perennial Plants					X
Comments:						
S	Physical/Chemical/Biological Crusts			X		
Comments:	Physical crust observed.					
B	Wildlife Habitat				X	

Comments:						
B	Wildlife Populations				X	
Comments:						
B	Special Status Species Habitat				X	
Comments:	Should be more sand bluestem, 60% satisfactory					
B	Special Status Species Populations			X		
Comments:	No known leks on the allotment					

### Part 3. Summary

A. Indicator Summary - Each of the indicators are associated with one or more of the attributes below. An indicator is placed in a category (columns) above and summed for each of the Standard Attributes.

Standard Attribute		Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S	Soil	0	0	1	2	7
H	Hydrologic	0	0	1	2	8
B	Biotic	0	0	2	6	5

B. Attribute Summary. In this table, the Extreme and Extreme to Moderate columns in the table above are merged for the *Does not Meet* column, Moderate becomes *May Need More Info*, and Slight to Moderate and None to Slight merge to form the *Meets* columns. Values from the table are summarized below. Space is provided for rationale of the determination. This space should most certainly be used when the determination by the ID team conflicts with the summarized values. Provide the sources of information that lead to the determination. X out the appropriate box for each attribute to denote final agreed upon determination by the ID team.

Attribute	Rationale	Does Not Meet	May Need More Info	Meets
Soil		0	1	9
Hydrologic		0	1	10
Biotic		0	2	11

Site Notes: Aristidas dominated the grass species here - Would hope to see more bluestems, dropseed, sand sage, yucca, blue gramas and shinnery oak.

RFOs Upland and Biotic Standard Assessment Summary Worksheet						
SITE 65014-SAND WEST-D001						
Legal Land Desc	SWSW 24 0060S 0300E Meridian 23	Acreage		1084		
Ecosite	070BY063NM DEEP SAND CP-2	Photo Taken		Y		
Watershed	13060003210 RAILROAD MOUNTAIN					
Observers	TRAUTNER & BAGGAO	Observation Date		11/09/2010		
County Soil Survey	NM644 CHAVES NORTH	Soil Var/Taxad				
Soil Map Unit	RPD	Soil Taxon Name		ROSWELL		
Texture Class	NM644 FS	Soil Phase		ROSWELL- JALMAR		
Texture Modifier	NM644 FINE SANDS,HILLY					
Observed Avg Annual Precipitation		Observed Avg Growing Season Precipitation				
NOAA Annual Precipitation		NOAA Growing Season Precipitation				
NOAA Avg Annual Precipitation		NOAA Avg Growing Season Precipitation				
Disturbances and Animal Use:	Livestock have utilized this pasture at light levels.					
<b>Part 2. Attributes and Indicators</b>						
		Departure from Ecological Site Description/Ecological Reference Areas				
Attribute	Indicators	Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S H	Rills					X
Comments:						
S H	Water Flow Patterns					X
Comments:						

S H	Pedestals and/or Terracettes					X
Comments:						
S H	Bare Ground					X
Comments:	ecological site description = 35%, this location = 25%					
S H	Gullies					X
Comments:						
S	Wind-scoured, Blowouts, and/or Deposition Areas				X	
Comments:	Independent and few					
H	Litter Movement				X	
Comments:						
S H B	Soil Surface Resistance to Erosion				X	
Comments:	Sandy range site, reduction in innerspaces					
S H B	Soil Surface Loss or Degradation					X
Comments:						
H	Plant Community Composition and Distribution Relative to Infiltration and Runoff					X
Comments:						
S H B	Compaction Layer					X
Comments:						
B	Functional/Structural Groups					X
Comments:						
B	Plant Mortality/Decadence					X
Comments:						
H B	Litter Amount					X
Comments:	Ecological site description = 30%, this location = 20%					
B	Annual Production				X	
Comments:	Ecological site description calls for 2000 lbs/acre, this location is estimated to be within 60% of that.					
B	Invasive Plants					X
Comments:						
B	Reproductive Capability of Perennial Plants					X
Comments:						

S	Physical/Chemical/Biological Crusts					X
Comments:	Physical/bio crust.					
B	Wildlife Habitat				X	
Comments:						
B	Wildlife Populations				X	
Comments:						
B	Special Status Species Habitat				X	
Comments:						
B	Special Status Species Populations			X		
Comments:	Surveys found leks in adjacent areas but not on this allotment.					

### Part 3. Summary

A. Indicator Summary - Each of the indicators are associated with one or more of the attributes below. An indicator is placed in a category (columns) above and summed for each of the Standard Attributes.

Standard Attribute		Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S	Soil	0	0	0	2	8
H	Hydrologic	0	0	0	2	9
B	Biotic	0	0	1	5	7

B. Attribute Summary. In this table, the Extreme and Extreme to Moderate columns in the table above are merged for the *Does not Meet* column, Moderate becomes *May Need More Info*, and Slight to Moderate and None to Slight merge to form the *Meets* columns. Values from the table are summarized below. Space is provided for rationale of the determination. This space should most certainly be used when the determination by the ID team conflicts with the summarized values. Provide the sources of information that lead to the determination. X out the appropriate box for each attribute to denote final agreed upon determination by the ID team.

Attribute	Rationale	Does Not Meet	May Need More Info	Meets
Soil		0	0	10
Hydrologic		0	0	11
Biotic		0	1	12

Site Notes: This pasture looks better than East Pasture - it has more bluestem and blue grama present. Other species present are shinnery oak, sand sage, aristida, black grama, yucca, dropseeds, prickly pear and miscellaneous forbs. Recommend to continue current management.



## **Determination of Public Land (Rangeland) Health for 65014-ABBOTT WELL**

The Record of Decision (ROD) for the New Mexico Standards for Public Land Health and Guidelines for Livestock Grazing Management (dated January 2001) adopted three Standards for Public Land Health. These are (1) Upland Sites Standard, (2) Biotic Communities, Including Native, Threatened, Endangered, and Special Status Species Standard and (3) Riparian Sites Standard. The ROD also established a process for the BLM Field Offices for the implementation. Through a public participation process, the Roswell Field Office developed and adopted indicators to use in conjunction with existing monitoring data to assess these standards.

Field assessment worksheets and other available data that evaluate local indicators were completed for this allotment. Based on these assessments, it is my determination that public land within Abbott Well, allotment #65014 meets the Upland and Biotic standards but with some concerns with LPC habitat. There are no Riparian areas located on public land within this allotment, therefore this standard was not addressed.

/s/ J. Howard Parman  
Assistant Field Manager

03/10/2011  
Date